United States Department of Agriculture
Grain Inspection, Packers and Stockyards Administration
Federal Grain Inspection Service

Program Notice

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NEAR-INFRARED TRANSMITTANCE (NIRT) SOYBEAN PROTEIN AND OIL CALIBRATION ADJUSTMENTS

1. SUMMARY

Beginning September 3, 2001, the Federal Grain Inspection Service (FGIS) will implement updated soybean protein and oil calibrations for official near-infrared transmittance (NIRT) instruments.

2. BACKGROUND

FGIS performs annual reviews of the soybean protein and oil calibrations to measure the performance of NIRT instruments compared to the standard reference methods: Combustion Nitrogen Analyzer (CNA) for protein content and Solvent Oil Extraction for oil content. The periodic adjustment of calibrations provides the grain industry with the best possible information from which to determine end-product yield and quality of grain.

FGIS recently completed a review of the soybean calibrations (protein and oil) for the NIRT instruments. Based on the results of the review, FGIS determined that protein and oil calibration adjustments are needed to more closely align the NIRT predictions of protein and oil to the CNA and Solvent Oil Extraction reference methods.

The current soybean protein and oil calibrations were developed and implemented in 1993. Calibration data collected by FGIS using samples from the 1993 through 2000 harvests were used to develop the updated protein and oil calibrations. The addition of this data extends the range of protein and oil values represented in the calibration and better represents diverse growing conditions.

3. IMPLEMENTATION

FGIS will issue an updated GIPSA NIRT Calibrations disk, new Standard Reference Samples (SRS), new baseline values, and new standard slope settings for soybean protein and oil to all soybean testing locations.

4. ANTICIPATED EFFECT

The effect of the calibration adjustments will be to more closely align the official NIRT soybean oil and protein measurements with the reference methods, based on a system-wide average.

Changes to system-wide average protein and oil values will be minimal. For protein, the effect of the updated calibration, new standard slope, new SRS, and new baseline values is expected to be an average change of approximately minus (-) 0.06 across the full protein range. For oil, the effect of the updated calibration, new standard slope, new reference samples, and new baseline values is expected to be an average change of approximately plus (+) 0.01 across the full oil range. Differences observed for individual samples will vary from this estimated average effect.

5. QUESTIONS

Direct any questions to the Policies and Procedures Branch at (202) 720-0252.

/s/David Orr

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